Stormwater and Combined Sewer Overflows

Puget Sound Management Plan Goal

- To protect and enhance the health of Puget Sound's aquatic species and habitat, natural hydrology and processes, and water quality, and to achieve standards for water and sediment quality by managing stormwater runoff and reducing combined sewer overflows.

Strategies for Achieving the Goals

- Develop and carry out local programs that combine land use and watershed planning and comprehensive stormwater management.
- Maintain minimum technical standards, issue municipal, industrial and construction National Pollutant Discharge Elimination System (NPDES) permits that are consistent with this program; and provide guidance, technical and financial assistance and training.
- Manage runoff on state, federal and tribal government land.
- Achieve the greatest reasonable reduction in combined sewer overflows.
- Conduct cooperative research and disseminate findings.
- Measure progress through performance measures and adjust the program as needed.

Background and Trends

Stormwater runoff, if not adequately managed, poses a serious threat to Puget Sound. Contaminants in stormwater, such as bacteria, nutrients and various chemicals, pollute rivers, streams and Puget Sound. They harm or kill fish and other aquatic organisms and contaminate sediments. High flows during storms erode stream channels and degrade or destroy habitat for salmon and other wildlife. Unmanaged stormwater also causes flooding and damages homes and property. Combined sewers, which carry sewage and stormwater to treatment plants, often overflow during heavy storms, releasing untreated sewage and stormwater into surface waters and Puget Sound.

Although problems related to stormwater are pervasive and much remains to be done, state and local governments and businesses have taken significant steps to reduce damage caused by stormwater.

As of June 2000, about 80 percent of the basin's cities and counties had developed or were developing basic stormwater programs. Some cities and counties in urbanized areas had already developed comprehensive (enhanced) stormwater programs; others were beginning to develop these programs. Many more jurisdictions will now be covered under federally mandated stormwater permits as the Environmental Protection Agency expands coverage to include jurisdictions under 100,000 in population. Municipalities with combined sewer overflows have spent substantial amounts of money reducing overflows.

The Department of Ecology and Action Team support staff provide technical and financial assistance and guidance to help cities and counties develop effective stormwater management programs. Ecology is currently revising its stormwater technical manual of best management practices to improve stormwater practices.

Businesses implement a range of management practices to minimize and treat runoff from their properties. The Washington State Department of Transportation (WSDOT) manages runoff from the state's highways by following practices outlined in the highway runoff manual and NPDES permit. WSDOT also conducts research, offers training, and funds retrofits of stormwater outfalls.

The University of Washington and local governments cooperate to research the effectiveness of various techniques to manage stormwater and the effects of stormwater on aquatic systems.

Highlights of 2001-2003 Actions

- Ecology will issue, manage and reissue stormwater permits and provide technical assistance to local governments.
- WSDOT will mitigate the impacts of stormwater runoff, support stormwater research and train department contractors, agency personnel and local governments to control erosion and manage spills.

- The Action Team support staff will work with Ecology and the Office of Community Development) to provide guidance, technical assistance and support to local governments.
- The Action Team support staff will promote low impact development practices to local governments, the development community and the public.
- Ecology will maintain current guidance and a manual for development of local stormwater programs.
- Ecology will provide grants and loans through the Centennial Program and the State Revolving Fund to help local governments develop stormwater programs.
- Ecology will administer an enhanced municipal stormwater program to address stormwater in smaller communities.

2001-2003 Budget for State Actions

Total Enhancement	$200,000
Total Provisoed Funding	$1,703,908
Total Other Funding	$36,670,000

See page 9 for key.

STATE AGENCY ACTIONS	OUTCOMES	Priority	Non-point	Salmon	Budget Code	PS Plan Element	Action ID
DEPARTMENT OF ECOLOGY							
Administer an enhanced municipal stormwater program within the Puget Sound basin, as well as statewide, which will include education on EPA's Phase II stormwater rules. Provide technical assistance to cities and counties--both requiring and not requiring stormwater discharge permits--to help them develop programs for managing stormwater, including development manuals, ordinances and education.	Phase I communities will update stormwater programs based on a new permit.Technical assistance will be provided to western Washington communities.	☑	☐	☑	DOE-06	SW-2	61
Continue working with the Department of Transportation to provide effective guidance and measures to reduce and control highway runoff and meet NPDES requirements.	Water quality impacts from highway runoff will be reduced.	☑	☐	☑	DOE-06	SW-4	62
As resources allow, work with agencies and organizations to maintain current guidance for development of effective and cost efficient stormwater programs.	Current and state-of-the-art guidance will be provided to communities developing or implementing stormwater control programs.	☑	☐	☑	DOE-06	SW-2	63
Provide enhanced assistance to local governments. This will include providing grants and loans to local governments through Centennial and the State Revolving Fund, developing data management and modeling tools, and adding additional agency staff to provide technical assistance.	Local governments will have improved tools, expertise and resources with which to develop and implement effective stormwater management programs.	☑	☐	☐	DOE-06	SW-3	65
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION							
Monitor compliance with National Pollutant Discharge Elimination System (NPDES) stormwater requirements and stormwater utility fees.	Best management practices for controlling stormwater will be monitored and other permit requirements will be met, including payment of fees.	☑	☑	☑	DOT-01	SW-4	66
Mitigate the impacts of stormwater runoff for all new transportation construction projects that add more than 5,000 square feet of impervious surface. Provide roadside maintenance for existing stormwater management facilities. Treat existing impervious surface flows when practicable as specified in the Puget Sound Highway Runoff Manual.	Water quality impacts related to development of new transportation projects will be mitigated. Existing stormwater management practices will be maintained to maximize the efficiency of water quality treatment.	☑	☑	☑	DOT-01	SW-4	67
Support research related to stormwater treatment, bioengineering, erosion and sediment control, including coagulants for detention ponds, soil additives to prevent erosion, cost-benefit analysis, ultra-urban (confined space) technologies and infiltration methods.	The knowledge base and technology designs for stormwater treatment, erosion control and bioengineering practices will be improved.	☑	☐	☑	DOT-01	SW-4	68

See page 9 for key.

STATE AGENCY ACTIONS	OUTCOMES	Priority	Non-point	Salmon	Budget Code	PS Plan Element	Action ID
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION							
Train department contractors, agency personnel and local governments to control erosion and manage spills.	Knowledge among construction-site personnel concerning erosion control and spill management requirements will be improved. Water quality impacts related to erosion control failures will be reduced. On-site personnel will receive training and tools to prevent spills and to initiate appropriate response measures in the event of accidental spills. Contractor certification program for erosion control will be implemented.	☑	☑	☑	DOT-01	SW-3	69
Work in cooperation with the Department of Ecology, local governments, and other interested parties to assess the need to revise the Highway Stormwater Runoff Rule.	Necessary changes to the Highway Runoff Rule will be identified.	☐	☐	☑	DOT-01	SW-4	70
PUGET SOUND WATER QUALITY ACTION TEAM							
Convene periodic meetings with Ecology to coordinate regional assistance to local governments on stormwater.	Assistance to local governments will be improved.	☑	☐	☑	PSAT-04	SW-3	71
Work with Ecology and the Office of Community Development to develop guidance for local governments on development of stormwater programs.	Guidance for three elements of the basic program will be developed and distributed to local governments (where currently no guidance exists).	☑	☐	☑	PSAT-04	SW-3	72
Work with Ecology to provide assistance and support to local governments on adoption, enhancement and implementation their stormwater programs.	The number of stormwater programs that are fully or partially completed will be increased.	☑	☐	☑	PSAT-04	SW-3	73
Promote low impact development practices to local governments and the public. Increase understanding and appreciation of the principles and practices so that they are incorporated into new development proposals around the basin, where conditions are appropriate for their use.	Understanding of low impact development principles and increased use of practices will be increased.	☑	☐	☑	PSAT-04	SW-2	74

See page 9 for key.

LOCAL GOVERNMENT ACTIONS	OUTCOMES	Priority	Non-point	Salmon	PS Plan Element	Action ID
SOUNDWIDE						
THE PUGET SOUND ACTION TEAM RECOMMENDS THAT:						
Every city and county shall develop and implement a comprehensive stormwater management program. Stormwater programs will vary among jurisdictions, depending on the jurisdiction's population, density, threats posed by stormwater, and results of watershed planning efforts. Cities and counties are encouraged to form intergovernmental cooperative agreements in order to pool resources and carry out program activities most efficiently. Programs shall include the following components (these are described in more detail in the "2000 Puget Sound Water Quality Management Plan"): * Incorporate stormwater management into growth management planning. * Stormwater controls for new development and redevelopment, including ordinances requiring the use of best management practices (BMPs) and the adoption and use of Ecology's stormwater manual or an approved alternative. * Review of site plans to ensure that stormwater control measures are adequate and consistent with local requirements * Regular inspection of construction sites by local inspectors with erosion and sediment control practice training * Require maintenance of all permanent public and private stormwater facilities * Develop and implement a program to control sources of pollutants from new development and redevelopment projects and from existing developed lands * Adopt ordinances to prohibit dumping and illicit discharges. Carry out activities to detect, eliminate and prevent illicit discharges, and respond to spills and water quality violations. * Identify and rank existing problems that degrade water quality, aquatic species and habitat, and natural hydrologic processes. * Educate and involve citizens, businesses, elected officials, site designers, developers, builders and other members of the community to build awareness and understanding of stormwater and water quality issues. * Adopt ordinances that allow and encourage low impact development practices. * Participate in watershed or basin planning processes. * Create local funding capacity. * Monitor program implementation and environmental conditions and trends over time. * Develop an implementation schedule with specific target dates and funding sources to help plan program activities.	All jurisdictions will develop and carry out local programs that combine land use and watershed planning and comprehensive stormwater management.	☑	☐	☑	SW-1	76